

## **RESEARCH PROBLEM STATEMENT #TS-511**

### **I – Problem Title**

TMC Performance Measurement (2004Mob.4)

### **II – Research Problem Statement**

At present, we do not have a concise method of measuring the performance and the production of the TMCs on their day-to-day activities. Along with the CHP MIO officers, the D12 TMC, for example, responds to hundreds of incidents, hundreds of closures and hundreds of maintenance activities. Unless we measure the actual production, which includes delay saving, we do not have the measure of our performance and the benefit to cost ratio of the TMCs. The effectiveness of the TMCs has always been under question as to whether it is worthwhile to have TMCs Capital investment, TSM elements and their continuous Maintenance and Operations cost, and staffing for the TMCs and for maintaining the field elements.

### **III – Objective**

Determine TMC performance measurement based on actual delay saving and the enhanced safety of the system. In order to capture the benefits and the production of TMCs, I am recommending to develop a database system that is linked to the existing CHP CAD, existing Daily Activity Log, and real time volume and speed report. The new database will extract the information for each incident from all exiting reports and produces a delay saving due to early verification, percentage of traffic diversion due to CMS activation, percentage of early detection via CCTV, reduction in secondary accident based on the historical data in each corridor and to measure the added safety enhanced by all of the above measure quantities.

### **IV – Background**

Each year during the budget planning and funding justifications we make repeated effort to justify or increase funding for Maintenance and Operation of the TMCs, and we make attempts to justify the need of the TMCs, the need for field elements and the need for the staffing of the TMCs. Each of us has put efforts to capture the benefits of elements such as CCTVs, CMSs, HARs, ATMS and so on.

We have yet to successfully illustrate the performance and productions of the TMCs. We have not been able to objectively quantify the benefits of the TMCs to present it with confidence to the executive management or the funding agency. The proposed project will capture the full spectrum of the TMC/ TSM benefit with high degree of reliability based on the actual performance of our operations.

### **V – Statement of Urgency and Benefits**

Urgent. Traffic Operations needs such a Performance Measure to quantifying TMC production. This report will allow us to have measurable quantities in delay saving and enhanced safety of the system, which will be presented to the higher authorities for the justification of the TMC funding based on real data.

## **VI – Related Research**

We are aware of studies performed for FHWA by different Transportation Agencies and studies performed by universities. However, they are not exact and it is average base. They are not capturing the actual, exact production based on the day-to-day activities of the TMCs.

## **VII – Deployment Potential**

This project should be a single-phase project. Upon completion, the developed database will be deployed for production in the District 12 for a three to six month testing period. Once it is fully acceptable will be deployed to other districts with minimal effort.